**NORTH WEST ACPIN with SALFORD UNIVERSITY**

**BENCH to BEDSIDE**

**12th October 2019, MEDIA CITY MANCHESTER**

**Title:**  **TRANSLATING WHAT PATIENTS ‘CAN DO’ INTO WHAT THEY ‘DO DO’**

Therapists within the NHS are under increasing pressure to deliver evidence-based services for an increasing number of people with complex, long term conditions. The limited amount of time available for hands-on therapy necessitates the need to maximise outcomes that are meaningful to patients’ daily lives, and likely to last. But how can we best meet the challenge of translating what patients ‘can do’ in a clinical situation (i.e. their capacity) into what they ‘do do’ in real life (i.e. their performance)? This talk will focus on the concept of *transfer*, with the aim to gain a better understanding of this phenomenon and why this can be so challenging, explore ways in which it can be optimised, and discuss implications for clinical practice and research.

**Frederike van Wijck** is a human movement scientist with a qualification in physiotherapy from The Netherlands, and currently Professor of neurological rehabilitation at Glasgow Caledonian University. Her research interests focus on promoting functional recovery, physical activity, skill acquisition and behavioural change in people with stroke and other long term neurological conditions, with the aim to enable them to achieve their personal goals. She is involved in a range of studies, from systematic reviews to randomised controlled trials, with a special interest in interventions to improve arm function and physical activity. Collaborative work on physical activity after stroke has led to the UK best practice guidelines for community-based exercise and fitness training after stroke, the first UK Exercise and Fitness Training after Stroke course and a textbook published by Elsevier. Frederike is past-president of the European Forum for Research in Rehabilitation, past secretary of the Society for Research in Rehabilitation and research lead and founding member of the Scottish Stroke Allied Health Professions Forum.

**Title: BRIDGING THE RESEARCH – PRACTICE – RESEARCH GAP: ROLE OF THE INFORMED CLINICIAN**

**Description:** This talk will focus on the critical role that physiotherapists at the forefront of rehabilitation care can play in closing gaps between research and practice. Attendees will leave armed with practical take-away strategies for action and inspiration in their settings and lives.

**Kathryn Sibley** is an Associate Professor in Community Health Sciences, with a cross-appointment in Rehabilitation Sciences, at the University of Manitoba in Winnipeg, Canada. Dr. Sibley holds a Canada Research Chair in Integrated Knowledge Translation in Rehabilitation Sciences. She studies the process of linking research with practice in rehab, with a focus on assessment and treatment of balance in populations at risk for falls. Dr. Sibley holds an undergraduate degree in Kinesiology from the University of Waterloo and graduate degrees in rehabilitation and medical sciences from the University of Toronto. She also completed postdoctoral training in Knowledge Translation at the Toronto Rehabilitation Institute.

**Title: An Example of Research into Practice: design of interventions for improving adaptability of walking to enhance independent community mobility.**

**Description:** This talk will explore one example of using evidence of the cause and nature of walking difficulties after stroke to inform the design of an intervention and subsequent evaluation of that intervention. We will look at the challenges and opportunities of implementing evidence in practice and also of carrying out research to evaluate treatment delivery through this example

**Kristen Hollands** is a Senior Research Fellow in the School of Health Sciences, University of Salford. Kristen’s training began with an undergraduate degree in Kinesiology and an MSc in Motor Control from the University of Waterloo Canada, following which she completed her PhD in rehabilitation sciences at the University of Birmingham UK. Her research focusses on understanding the causes of difficulties with mobility in older adults and people with neurologic conditions and translating this understanding to the design of more effective rehabilitation treatments.

**Title: Tailored upper limb recovery after stroke.**

**Description:** Upper limb recovery after stroke is poor, especially in the more severely affected stroke survivors. However, evidence of the effect of training on recovery mechanisms is increasing. This talk will summarize current knowledge of recovery mechanisms after stroke and how training can be tailored on an individual basis to target these for optimal recovery.

**Ulrike Hammerbeck** is a Research Fellow at the University of Manchester and is interested in recovery mechanism of function after neurological insult. Her research investigates the effect of training not only on the control of movement but also on cortico-spinal connectivity. Ulrike is a physiotherapist by background and completed her PhD investigating learning mechanisms in chronic stroke survivors at the Institute of Neurology, University College London under Prof.John Rothwell, in 2015.  She has since been awarded a Stroke Association post-doctoral fellowship in which she investigated proximal arm recovery processes in the acute period after stroke.

**Title: Functional Electrical Stimulation (FES) for improving upper limb function post stroke. Clinical practice and future aspirations.**

**Description:** FES is an attractive tool to use to promote recovery following stroke as it allows a direct path to the nervous system by inducing activity in both efferent and afferent nerves. Learning (neuroplasticity) is a response to experience. By practicing functional tasks supported by FES the clinician may seek to maximise the sensory and proprioceptive input and thereby optimise the prerequisites for neuroplasticity. While FES device currently available in the clinic are not optimised for supporting functional upper limb activity, clinically meaningful gains can be achieved in the control of spasticity, muscle strength and post stroke pain. This talk will review current clinical practice and the evidence for its use.

**Paul Taylor** is a biomedical engineer, completing his PhD from Southampton in the development of an EMG controlled FES device to improve hand opening following stroke. He is head of research at the National Clinical FES Centre in Salisbury, Clinical director of Odstock Medical Limited and visiting professor at Bournemouth University. He is experienced in the development, clinical assessment and clinical delivery of FES devices for applications in stroke, MS, SCI and Parkinson’s disease.

**Title: The Salford-Odstock upper limb FES system and novel approaches to evaluation**

**Description:** There is good evidence supporting highly intensive, repetitive, activity-focused, voluntary-initiated practice as a key to driving recovery of upper limb function following stroke. Functional electrical stimulation (FES) offers a potential mechanism to efficiently deliver this type of therapy, but current commercial devices are too inflexible and/or insufficiently automated, in some cases requiring engineering support. In the first part of the talk, I will report on a new, flexible upper limb FES system, FES-UPP, which addresses the issues above.

One of the key challenges in getting such devices adopted in clinical practice is the gathering of robust evidence of efficacy and I will finish the talk with a brief overview of methods to monitor upper limb activity in the real world, an outcome measure which can be easily deployed in clinical practice.

**Laurence Kenney** is Professor in Rehabilitation Technologies at the University of Salford. After graduating in mechanical engineering from the University of Salford, Laurence studied for a PhD in engineering design. Since the mid-1990s he has worked in the area of rehabilitation engineering, with a focus on prosthetics and functional electrical stimulation systems. His research has contributed to the design of two regulatory-approved functional electrical stimulation devices, as well as the development of novel outcome measures based on the use of wearable sensors.

**Title: Challenges and barriers of getting evidence into clinical practice.**

 **How can we influence changes in clinical practice?**

**Description:** Following a short presentation. We will discuss the challenges and barriers in an interactive session. The research practice gap continues to be a challenge with current evidence suggesting it takes 17 years to get research into practice. We will explore the complexities surrounding this and discuss how we may change and influence this.

**Louise Connell**

Dr Louise Connell is a Reader in Rehabilitation at the University of Central Lancashire, Preston, UK. She has been awarded fellowship status by the Association for Chartered Physiotherapists In Neurology for advancing the specialty of neurological physiotherapy. She is a former National Institute for Health Research (NIHR) Career Development Fellow. Her interest is in implementation research, and she is undertaking a programme of research into neurological rehabilitation. Her current research focuses specifically on implementation research for intensive rehabilitation after stroke.